## REMARKS

Claims 1-19 are all the claims pending in the Application. By this Amendment,

Applicant amends claims 1-6, 9, 10, 12, and 14-18 to further clarify the invention.

### Summary of the Office Action

The Examiner rejected claims 9, 10, 12-15, and 18 under 35 U.S.C. § 102(e) as being

anticipated by U.S. Patent No. 5, 819, 042 to Hansen (hereinafter "Hansen"), claims 1-6, 11, 17,

and 19 under 35 U.S.C. § 103(a) as being obvious over Hansen, and claims 7, 8, and 16 under 35

U.S.C. § 103(a) as being obvious over Hansen in view of Applicant's Admitted Prior Art (APA).

### Statement of Substance of the Interview

Applicant thanks Examiner Nguyen and Examiner's Supervisor Huynh for the courteous

in person interview on May 17, 2005. An Examiner's Interview Summary Record (PTO-413)

was given to the Applicant's Representative. The PTO-413 requires the Applicant to file a

Statement of Substance of the Interview. The Statement of Substance of the Interview is as

follows:

During the interview claims 1, 9, and 12-16 were discussed in view of the APA and

Hansen. The Examiner has indicated that the independent claims 1 and 9 are unclear.

Specifically, the Examiner has indicated that the term "device of the controller" is unclear.

Therefore, in order to resolve the ambiguities noted by the Examiner, Applicant amends the

claims. Specifically, claims 1-6, 9, 10, 12, and 14-18 are amended. Independent claims 1, 6, and

9 are amended to resolve the noted ambiguity. Dependent claims 2-5, 10, 12, and 14-18 are

editorially amended to conform to their respective independent claims. For example, claim 1

recites: "selecting a representation of a signal or data of a controlled system, where the signal or

the data is stored in a memory of a controller" and claim 9 recites: "selecting a signal or data of a

controlled system, where the signal or the data is stored in a memory of a controller and the

controller controls operations of the controlled system."

In view of the clarified ambiguity that it is a signal or data of a controlled system that is

selected for use and not some hardware device such as a router as taught by Hansen, independent

claims 1, 6, and 9 are patentable over Hansen in view of the APA, as explained in greater detail

below.

Moreover, as agreed during the Interview, Applicant respectfully requests the Examiner

to carefully reconsider the features of the dependent claims 12-16, as they recite additional

unique features that provide separate basis for patentability.

Prior Art Rejections

The Examiner rejected claims 9, 10, 12-15, and 18 under 35 U.S.C. § 102(e) and claims

1-8, 11, 16, 17, and 19 under 35 U.S.C. § 103(a). Applicant respectfully traverses these

rejections in view of the following remarks.

I.    *Summary of the Invention and the APA*

It will be appreciated that the following remarks relate to the invention in a general sense,

the remarks are not necessarily limitative of any claims and are intended only to help the

Examiner better understand the distinguishing aspects of the claims mentioned further below.

In general, the present invention relates to a display for indicating the operated condition

of a controller which coordinates and controls the operation of a controlled system such as the

industrial equipment, the production line, or the chemical plant. The controller holds signal and

data of the controlled system and classifies them into an input signal, an output signal, a count

value, a timer value, and numerical data. These signals and data are stored in a memory of the

controller and are controlled by a control program that specifies the operation of the controlled

system. The control program is also stored in the memory of the controller. The control

programs are typically created using a control program schema generator by the control designer.

The programming language typically used is a Relay Ladder. *See* pages 1-2 of the specification.

To inform the device values of the controller to the operator on a production line, a

display is used to display device data. These display screens are drafted by designers. That is,

the present invention broadly relates to a drafting apparatus, which indicates the operating

conditions or signals and data of the controlled system stored in a memory of the controller and a

control program that specifies the control operations of the controlled system. *See* pages 1-2 of

the specification.

In the <u>APA</u>, the designer designs the display information for the devices of the controller

using a display drafting apparatus (*e.g.*, Figs. 20 and 21) and generates a control program using a

control program schema generator (*e.g.*, Fig. 22). *See* pages 2-4 of the specification. In the

APA, however, among other problems, there is no interconnection between these two programs.

Accordingly, this procedure is unsuitable when a designer performs the display drafting

concurrently with making the control program. That is, in the APA, the designer has to

temporarily memorize the signal or data (*e.g.*, the identification or represent of the signal such as

a symbol and a number of the output signal) in his head or note it down on a piece of paper so

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that the signal or data is identically identified in the display drafting apparatus and in the control

program schema generator. In other words, in the APA, the signal or data has to be set up twice:

in the display drafting apparatus and the control program schema generator. *See* pages 5-7 of the

specification.

In the exemplary, non-limiting embodiment of the present invention, however, the

temporary memorization of the device of interest can be omitted. For example, the designer first

selects a representation for the signal or data, *e.g.*, a symbol and a number. This selected

representation of the signal or data is then applicable to both the design drafting apparatus and

the control program schema generator. Accordingly, the signal or data is only set up once and no

temporary memorizations are needed. *See* pages 8-10 of the specification.

## *II.    Prior Art*

Hansen, on the other hand, relates to configuring a network (col. 1, lines 15 to 23). User

devices of a network are initially unconfigured when delivered by the factory. Configuration is a

process during which the hardware and software of an unconfigured device is organized and

interconnected so that the configured device will be able to perform the desired tasks (col. 1,

lines 51 to 55). Devices are hardware *i.e.*, visual displays, computer systems, and office

workstations (col. 1, lines 31 to 50).

In particular, Hansen teaches simplifying the configuration of the network for the

administrator. The configuration of a network device by constructing a configuration file for the

network device is achieved by the following method. First, the application for configuring the

devices is launched (configuration tool 10). The application opens a network workspace window

102 and a device window 104. In the network workspace window 102, a map has any number of interconnected network devices. Each device has a configuration tied thereto. The device window 104 displays all of the types of network devices which may be placed on the network workspace window 102. For example, the device window 104 includes icons representative of a PPP link, a vendor specific modular router, an ISDN-type WAN, an Ethernet-type LAN, a non-vendor specific computer subsystem, an X.25-type packet-switching WAN, and an ISDN-type WAN which subscribes to frame relay-mode service (Fig. 4; col. 9, lines 25 to 53).

When the application is loaded, the administrator selects a command *e.g.*, from a menu, and the command is executed. For example, the administrator may select to open a configuration map 106 and then decide to edit the network configuration map 106 displayed in the network workspace 102. If the network administrator decides to edit the configuration network map 106 displayed in the network workspace 102, the administrator may select a device type displayed in device type window 104 and add a device of the selected type to the map 106 displayed in network workspace 102. The administrator simply selects an icon (representing the needed device) in the window 104 and clicks on a location on the configuration map where the device should be positioned (col. 11, line 54 to col. 12, line 41). The map editor 14 then determines whether the proposed connection is permissible. If the proposed connection is permitted, then a line is drawn to connect the device (col. 13, lines 44 to 59).

Once the device is connected, the administrator is provided with an option of configuring the device. The execution of script commands causes a series of questions to be asked of the network administrator, the answers to which are used to construct a configuration file for the

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network device (col. 14, lines 21 to 30). The configuration file is then uploaded to the device (col. 14, lines 60 to 62).

### III. Comments with respect to the Rejections

Claims 9, 10, 12-15, and 18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Hansen, claims 1-6, 11, 17, and 19 are rejected under 35 U.S.C. § 103(a) as being obvious over Hansen, and claims 7, 8, and 16 are rejected under 35 U.S.C. § 103(a) as being obvious over Hansen in view of APA. The Examiner's careful reconsideration is submitted to be appropriate in view of the following comments traversing the rejection.

#### Independent Claims

Independent claim 1 recites: "means for selecting a representation of a signal or data of a controlled system, where the signal or the data is stored in a memory of a controller," independent claim 6 recites: "means for selecting a signal or data of the controlled system, said signal or data representing an operation controlled by the programmable controller," and claim 9 recites: "selecting a signal or data of a controlled system, where the signal or the data is stored in a memory of a controller and the controller controls operations of the controlled system."

Hansen, on the other hand, relates to a configuration of network hardware devices. Hansen is from a different field of endeavor and addresses a completely different problem. Hansen has nothing to do with operational conditions of a controller, which coordinates and controls the operation of the controlled system. Hansen does not teach or suggest selecting a signal or data involved in an operation of a system being controlled by the controller.

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Hansen teaches that the device window 104 includes icons representative of a PPP link, a vendor specific modular router, an ISDN-type WAN, an Ethernet-type LAN, a non-vendor specific computer subsystem, an X.25-type packet-switching WAN, and an ISDN-type WAN which subscribes to frame relay-mode service. In other words, in Hansen, the device is a router or a computer subsystem. Clearly, a router or a computer subsystem cannot be equated with a signal or data of a controlled system such as input signal, output signal, a count value, a timer value, numerical data, etc. In Hansen, the network devices are not signals and/or data. Hansen clearly fails to teach or suggest a signal or data within the meaning of claims 1, 6, and 9.

In view thereof, independent claims 1, 6, and 9 are not anticipated and are not rendered obvious by Hansen. Moreover, the APA does not cure the deficient teachings of Hansen at least because one of ordinary skill in the art would not be able to combine and would not have been motivated to combine Hansen and the APA, especially in the manner suggested by the Examiner.

### *Dependent Claims*

The dependent claims 2-5, 7, 8, and 10-19 are patentable at least by virtue of their dependency on claims 1.

### *Additional Arguments for the Dependent claims 12-15 and 18 rejected under § 102*

Moreover, with respect to claim 12, the Examiner alleges that "changing at least one of said signal or data symbol and said signal or data number after setting up part of said display drafting information," as set forth in claim 12, is inherent (*see* page 3 of the Office Action). However, "[i]nherent anticipation requires that the missing descriptive material is '**necessarily present**,' **not merely probably or possibly present**, in the prior art." (emphasis added) *Trintec*

*Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599 (Fed. Cir.

2002); *see also* MPEP §2112. The Examiner's grounds alleging that the administrator will

always change at least a symbol or number of a device after setting up part of the display drafting

information are not understood. Indeed, changing the symbol or the number of the device is not

necessarily present in Hansen. For at least this additional reason, claim 12 is patentably

distinguishable from Hansen.

With respect to the dependent claims 13 and 14, the Examiner alleges that "the

processing of setting up the display drafting information and selecting device of the controller

must be paused (or interrupted) for a period of time to allow the data to be saved completely

before they can continue" (see page 3 of the Office Action). Again, the Examiner is alleging that

these unique features are inherent. However, in Hansen, there is no teaching or suggestion of

any pauses and/or interruptions.

In Hansen, all of the operations are performed using commands selected from a menu.

Commands could be "edit map", "open map" and so on. Hansen teaches that when a command

is selected, it is executed and then, the next command may be selected (Fig. 3A; col. 9, line 53 to

col. 11, line 15). Hansen does not teach or suggest performing the save command in the middle

of the configuration. Moreover, a device is selected via a drag and drop approach. Clearly, until

the device is selected by dropping it in the window 102, it cannot be saved. Moreover, this

unique feature is not necessarily present in Hansen, as is known to one of ordinary skill in the art,

the processors could perform multi-processing, *e.g.*, saving configuration data for one device

while configuring another device. Indeed, interrupting the configuration and the setting up of the

device to save data is not necessarily present in the disclosure of Hansen. For at least these additional reasons, it is appropriate and necessary for the Examiner to withdraw this rejection of claims 13 and 14.

Next, claim 15 requires "selected signal or data is used in display drafting and in a design of a control program for said controller, the design of a control program is performed separately from the display drafting." The Examiner alleges that Hansen's Fig 4, col. 9, lines 40 to 52 disclose the recitation of claim 15 (*see* page 3 of the Office Action). As explained above, Hansen clearly fails to teach or suggest a control program of a controller such as a ladder diagram. In Hansen, there is no controller and clearly no control program for the controller can be present. Moreover, the supporting passage cited by the Examiner recites:

> For example, the device window 104 illustrated in FIG. 4 includes icons representative of a PPP link, a vendor specific modular router, an ISDN-type WAN, an Ethernet-type LAN, a non-vendor specific computer subsystem, an X.25-type packet-switching WAN, and an ISDN-type WAN which subscribes to frame relay-mode service. At step 48, the network device configuration tool 10 loads a blank map into the network workspace 102. At this stage, the network device configuration tool 10 has completed loading the configuration manager GUI 100 and is ready to execute selected commands in response to inputs received from the network administrator via the user interface 9.

The Examiner alleges that the configuration of the network device is equivalent to the display drafting, then clearly Hansen fails to teach or suggest generating a control program. In other words, configuring a network device cannot be equated to both the display drafting and the

generating of a control program. For at least this additional reason, claim 15 is clearly patentably

distinguishable from (and patentable over) Hansen.

With respect to claim 18, the Examiner alleges that Hansen's disclosure of setting up an

IP address and the mask is equivalent to the device representing numeric data of a controlled

system (see page 4 of the Office Action). It is respectfully submitted, however, that IP address

and the mask is not the signal or data being selected or for which display drafting information is

presented. Moreover, the IP address and the mask is not numeric data of a controlled system but

is a set up data of a network device. Moreover, in Hansen, there is no controller configured to

control the operation of the controlled system. For at least these additional reasons, claim 18 is

patentably distinguishable from Hansen.

*Additional Arguments for the Dependent claims rejected under § 103*

Dependent claim 4 recites "means for appending a comment to the representation of the

signal or data selected by said signal or data selecting means …and means for sharing the

appended comment between said display drafting apparatus and said control program generator."

The Examiner alleges that Figs. 4 and 7, and col. 9, lines 25 to 52 of Hansen teach this

exempalry recitation of claim 4 (*see* pages 5 to 6 of the Office Action). First, col. 9, lines 25 to

52 of Hansen teach loading the configuration tool for configuring a network device. The cited

passage does not teach or suggest any means for appending a comment to the device. Moreover,

Hansen fails to teach or suggest sharing the appended comment between the display drafting

apparatus and the control program schema generator. For at least these additional exemplary

reasons, it is appropriate and necessary for the Examiner to withdraw this rejection of claim 4.

Dependent claim 16 is allegedly obvious over Hansen and the APA. The Examiner

alleges that it would have been obvious "to use a Relay Ladder diagram to design a control

program for the controller in Hansen's system since one advantage of ladder diagram language is

that it is a graphical language" (*see* page 9 of the Office Action). Here, it appears that the

Examiner acknowledges that Hansen does not teach or suggest a control program. With respect

to claim 15 on which claim 16 depends, however, the Examiner alleged that the designing of a

control program is disclosed in Hansen (*see* page 3 of the Office Action). That is, the Examiner

alleged that the designing of a control program is equivalent to configuring a network device.

It is respectfully noted that a network device cannot be configured using a ladder

diagram. Moreover, since the configuration of the network device is already performed via

dialogue boxes (visual display), there is no motivation to also include a ladder diagram. For at

least these additional reasons, claim 16 is patentable over the combined teachings of Hansen and

the APA.

Next, the dependent claim 17 recites:

> the signal or data is one of an input signal,
> an output signal, an auxiliary signal, a count
> value, a timer value, and a numerical data of
> a controlled system,
>
> the programmable controller is configured to
> control the operation of the controlled
> system, and
>
> the display drafting information informs an
> operator monitoring the controlled system at
> least of a type of the signal or data and
> state of the signal or value of the data.

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The Examiner alleges that the IP address (202) and the mask (204) of a router of Hansen are

equivalent to the device representing a signal or a numerical data of a controlled system (*see*

page 6 of the Office Action). As explained above, Hansen discloses an IP address of a router not

a controlled system, where a programmable controller controls its operations. Moreover, Hansen

does not teach or suggest informing the operator of a type of the IP address and the mask. For at

least this additional reason, claim 17 is patentable over Hansen.

Finally, with respect to claim 19, the Examiner acknowledges that Hansen fails to teach

or suggest the controlled system being a production line. The Examiner, however, takes an

Official Notice that a controller of a control system applied for a production line would have

been obvious to one of ordinary skill in the art (*see* page 7 of the Office Action). This Official

Notice is being challenged, and the Examiner is respectfully requested to substantiate this

Official Notice. Network devices such as a router by themselves would not be able to control a

production line. For example, the router only controls the flow of IP packets; it cannot by itself

control a production line. For at least this additional reason, claim 19 is patentable over Hansen.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed

to be in order, and such actions are hereby solicited. If any points remain in issue, the Examiner

is kindly requested to contact the undersigned attorney at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/680,419

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

overpayments to said Deposit Account.

Respectfully submitted,

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